

CLAIMS

1. A modulator, including a multiplexing/coding chain, operable with a first memory in which transport channels, comprised of transport blocks, are stored and a second memory, comprising:

a concatenator for reading transport blocks from the first memory, removing bits not intended for transmission from the read transport blocks, and storing the concatenated transport blocks in the second memory.

2. A modulator, including a multiplexing/coding chain, operable with a memory in which transport channels, comprised of transport blocks, are stored, comprising:

a channel coder for coding the transport channels from the memory, wherein the coding of subsets of the transport channels can be repeated; and

an interleaver for receiving the coded transport channels and selecting subsets of each coded transport channel and the repeated coded transport channels to produce a coded, interleaved data stream.

3. A multiplexing/coding chain, operable with a first memory in which transport channels, comprised of transport blocks, are stored and a second memory, comprising:

a concatenator for reading transport blocks from the first memory, removing bits not intended for transmission from the read transport blocks, and storing the concatenated transport blocks in the second memory.

4. The multiplexing/coding chain of claim 3, further comprising a cyclic redundancy check (CRC) generator for computing CRCs with the read transport blocks and appending the CRCs to the concatenated transport blocks stored in the second memory.

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5. The multiplexing/coding chain of claim 4, further comprising a ciphering block for ciphering the transport blocks to be concatenated and stored in the second memory.

6. The multiplexing/coding chain of claim 3, wherein the concatenated transport blocks are stored according to descending transmission time intervals in the second memory.

7. A multiplexing/coding chain, operable with a memory in which transport channels, comprised of transport blocks, are stored, comprising:

a channel coder for coding the transport channels from the memory, wherein the coding of subsets of the transport channels can be repeated; and

an interleaver for receiving the coded transport channels and selecting subsets of each coded transport channel and the repeated coded transport channels to produce a coded, interleaved data stream.

8. The multiplexing/coding chain of claim 7, further comprising a code block segmentor for segmenting transport channels greater than the channel coder block size and padding transport channels smaller than the channel coder block size.

9. The multiplexing/coding chain of claim 7, further comprising a radio frame equalizer for adding filler bits to the output of the channel coder.

10. The multiplexing/coding chain of claim 7, further comprising a rate matcher for puncturing and repeating bits of the coded, interleaved data stream to conform to data rates for the transport channels to produce a rate-matched, coded, interleaved data stream.

15. The multiplexing/coding chain of claim 14, further comprising a cyclic redundancy check (CRC) generator for computing CRCs with the read transport blocks and appending the CRCs to the concatenated transport blocks stored in the second memory.

Parameter	1990-1991		1991-1992		1992-1993		1993-1994		1994-1995		1995-1996		1996-1997		1997-1998		1998-1999		1999-2000		2000-2001		2001-2002		2002-2003		2003-2004		2004-2005		2005-2006		2006-2007		2007-2008		2008-2009		2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017		2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		2022-2023		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028		2028-2029		2029-2030		2030-2031		2031-2032		2032-2033		2033-2034		2034-2035		2035-2036		2036-2037		2037-2038		2038-2039		2039-2040		2040-2041		2041-2042		2042-2043		2043-2044		2044-2045		2045-2046		2046-2047		2047-2048		2048-2049		2049-2050		2050-2051		2051-2052		2052-2053		2053-2054		2054-2055		2055-2056		2056-2057		2057-2058		2058-2059		2059-2060		2060-2061		2061-2062		2062-2063		2063-2064		2064-2065		2065-2066		2066-2067		2067-2068		2068-2069		2069-2070		2070-2071		2071-2072		2072-2073		2073-2074		2074-2075		2075-2076		2076-2077		2077-2078		2078-2079		2079-2080		2080-2081		2081-2082		2082-2083		2083-2084		2084-2085		2085-2086		2086-2087		2087-2088		2088-2089		2089-2090		2090-2091		2091-2092		2092-2093		2093-2094		2094-2095		2095-2096		2096-2097		2097-2098		2098-2099		2099-2100		2100-2101		2101-2102		2102-2103		2103-2104		2104-2105		2105-2106		2106-2107		2107-2108		2108-2109		2109-2110		2110-2111		2111-2112		2112-2113		2113-2114		2114-2115		2115-2116		2116-2117		2117-2118		2118-2119		2119-2120		2120-2121		2121-2122		2122-2123		2123-2124		2124-2125		2125-2126		2126-2127		2127-2128		2128-2129		2129-2130		2130-2131		2131-2132		2132-2133		2133-2134		2134-2135		2135-2136		2136-2137		2137-2138		2138-2139		2139-2140		2140-2141		2141-2142		2142-2143		2143-2144		2144-2145		2145-2146		2146-2147		2147-2148		2148-2149		2149-2150		2150-2151		2151-2152		2152-2153		2153-2154		2154-2155		2155-2156		2156-2157		2157-2158		2158-2159		2159-2160		2160-2161		2161-2162		2162-2163		2163-2164		2164-2165		2165-2166		2166-2167		2167-2168		2168-2169		2169-2170		2170-2171		2171-2172		2172-2173		2173-2174		2174-2175		2175-2176		2176-2177		2177-2178		2178-2179		2179-2180		2180-2181		2181-2182		2182-2183		2183-2184		2184-2185		2185-2186		2186-2187		2187-2188		2188-2189		2189-2190		2190-2191		2191-2192		2192-2193		2193-2194		2194-2195		2195-2196		2196-2197		2197-2198		2198-2199		2199-2200		2200-2201		2201-2202		2202-2203		2203-2204		2204-2205		2205-2206		2206-2207		2207-2208		2208-2209		2209-2210		2210-2211		2211-2212		2212-2213		2213-2214		2214-2215		2215-2216		2	
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16. The multiplexing/coding chain of claim 15, further comprising a ciphering block for ciphering the transport blocks to be concatenated and stored in the second memory.

17. The multiplexing/coding chain of claim 14, wherein the concatenated transport blocks are stored according to descending transmission time intervals in the second memory.

18. The multiplexing/coding chain of claim 14, further comprising a code block segmentor for segmenting transport channels greater than the channel coder block size and padding transport channels smaller than the channel coder block size.

19. The multiplexing/coding chain of claim 14, further comprising a radio frame equalizer for adding filler bits to the output of the channel coder.

20. The multiplexing/coding chain of claim 14, further comprising a rate matcher for puncturing and repeating bits of the coded, interleaved data stream to conform to data rates for the transport channels to produce a rate-matched, coded, interleaved data stream.

21. The multiplexing/coding chain of claim 20, further comprising a second interleaver for interleaving the rate-matched, coded, interleaved data stream to produce a coded, composite transport channel.

22. An access terminal, for use in a CDMA system, including a multiplexing/coding chain, operable with a first memory in which transport channels, comprised of transport blocks, are stored and a second memory, comprising:

a concatenator for reading transport blocks from the first memory, removing bits not intended for transmission from the read transport blocks, and storing the concatenated transport blocks in the second memory.

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23. An access terminal, for use in a CDMA system, including a multiplexing/coding chain, operable with a memory in which transport channels, comprised of transport blocks, are stored, comprising:

a channel coder for coding the transport channels from the memory, wherein the coding of subsets of the transport channels can be repeated; and

an interleaver for receiving the coded transport channels and selecting subsets of each coded transport channel and the repeated coded transport channels to produce a coded, interleaved data stream.

24. An access point, for use in a CDMA system, including a multiplexing/coding chain, operable with a first memory in which transport channels, comprised of transport blocks, are stored and a second memory, comprising:

a concatenator for reading transport blocks from the first memory, removing bits not intended for transmission from the read transport blocks, and storing the concatenated transport blocks in the second memory.

25. An access point, for use in a CDMA system, including a multiplexing/coding chain, operable with a memory in which transport channels, comprised of transport blocks, are stored, comprising:

a channel coder for coding the transport channels from the memory, wherein the coding of subsets of the transport channels can be repeated; and

an interleaver for receiving the coded transport channels and selecting subsets of each coded transport channel and the repeated coded transport channels to produce a coded, interleaved data stream.

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26. A W-CDMA system, including a multiplexing/coding chain, operable with a first memory in which transport channels, comprised of transport blocks, are stored and a second memory, comprising:

a concatenator for reading transport blocks from the first memory, removing bits not intended for transmission from the read transport blocks, and storing the concatenated transport blocks in the second memory.

27. A W-CDMA system, including a multiplexing/coding chain, operable with a memory in which transport channels, comprised of transport blocks, are stored, comprising:

a channel coder for coding the transport channels from the memory, wherein the coding of subsets of the transport channels can be repeated; and

an interleaver for receiving the coded transport channels and selecting subsets of each coded transport channel and the repeated coded transport channels to produce a coded, interleaved data stream.

28. A method of modulation comprising:
reading transport blocks stored in a first memory; and
writing only those bits of the transport blocks intended for transmission into a second memory in concatenated form.

29. The method of claim 28, further comprising:
computing a CRC for each of the transport blocks; and
appending the CRCs to the concatenated transport blocks when writing to the second memory.

30. The method of claim 28, further comprising ciphering the concatenated transport blocks prior to storage in the second memory.

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31. A method of modulation comprising:
reading transport channels from a memory;
channel coding the transport channels;
repeating the channel coding step; and
selecting subsets from each of the repeated channel coding
outputs to produce a coded, interleaved data stream.

32. The method of claim 31, further comprising channel code block
segmentation wherein transport channels larger than channel code blocks are
segmented and transport channels smaller than channel code blocks are padded.

33. The method of claim 31, further comprising radio frame
equalization wherein filler bits are inserted into the output of the channel coding step.

34. The method of claim 31, further comprising rate matching
wherein bits are punctured and repeated to conform to data rates for the transport
channels.

35. The method of claim 34, further comprising interleaving the
output of the rate matching step.

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